

**HIGH VOLTAGE FAST-SWITCHING  
NPN POWER TRANSISTOR**

**1 Features**

- HIGH VOLTAGE CAPABILITY
- LOW SPREAD OF DYNAMIC PARAMETERS
- VERY HIGH SWITCHING SPEED
- LARGE RBSOA

- LOW  $V_{CE(SAT)}$

**APPLICATIONS:**

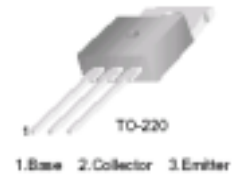
- ELECTRONIC BALLASTS FOR FLUORESCENT LIGHTING & SMPS.

**2 Electrical Characteristics**

**2.1 Absolute Maximum Ratings**

$T_{amb}= 25$  unless otherwise noted

Parameter	Symbol	Value	Units
Collector-Emitter Voltage( $V_{BE}=0$ )	$V_{CES}$	700	V
Collector-Base Voltage( $I_E=0$ )	$V_{CBO}$	700	V
Collector-Emitter Voltage( $I_B=0$ )	$V_{CEO}$	400	V
Emitter-Base Voltage( $I_C=0$ )	$V_{EBO}$	9	V
Collector Current(DC)	$I_C$	8.0	A
Collector Current(Pulse)	$I_{cp}$	16	A
Total Dissipation	$T_a=25$	$P_{tot}$	80 W
Storage Temperature		$T_{stg}$	-55-150
Max Operating Junction Temperature		$T_j$	150



**2.2 Electrical Characteristics**

$T_{amb}= 25$  unless otherwise noted

Parameter	Symbol	Test Conditions	Value			Unit
			min	typ	max	
Collector-Base Cut-off Current	$I_{CBO}$	$V_{CB}=700V, I_E=0$			100	$\mu A$
Emitter- Base Cut-off Current	$I_{EBO}$	$V_{EB}=9V, I_C=0$			100	$\mu A$
Dc Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=2A$	10		40	
Collector-Emitter saturation Voltage	$V_{CE sat}$	$I_C=5A, I_B=1A$			1.0	V
Base-Emitter Saturation Voltage	$V_{BE sat}$	$I_C=5A, I_B=1A$			1.5	V
Storage time	$t_s$	$I_C=0.5A$	2			$\mu s$
Current Gain Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=0.5A$ $f=1MHz$	5			MHz

## Typical Characteristics

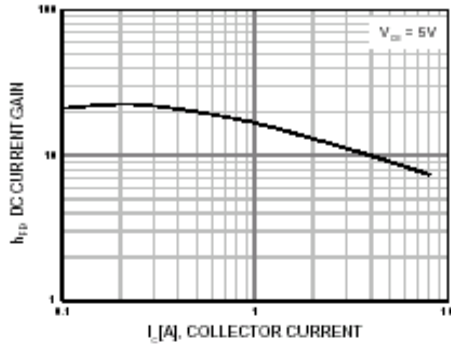


Figure 1. DC current Gain

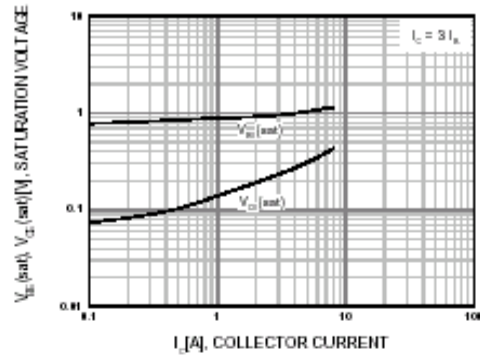


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

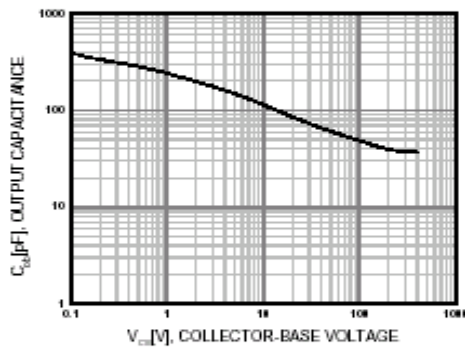


Figure 3. Collector Output Capacitance

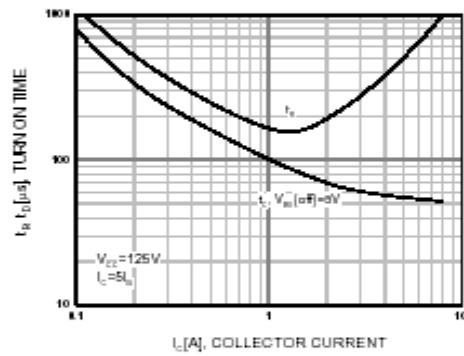


Figure 4. Turn On Time

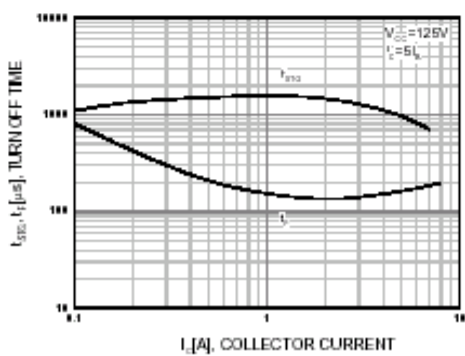


Figure 5. Turn Off Time

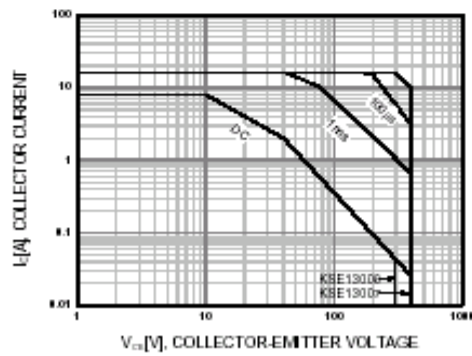
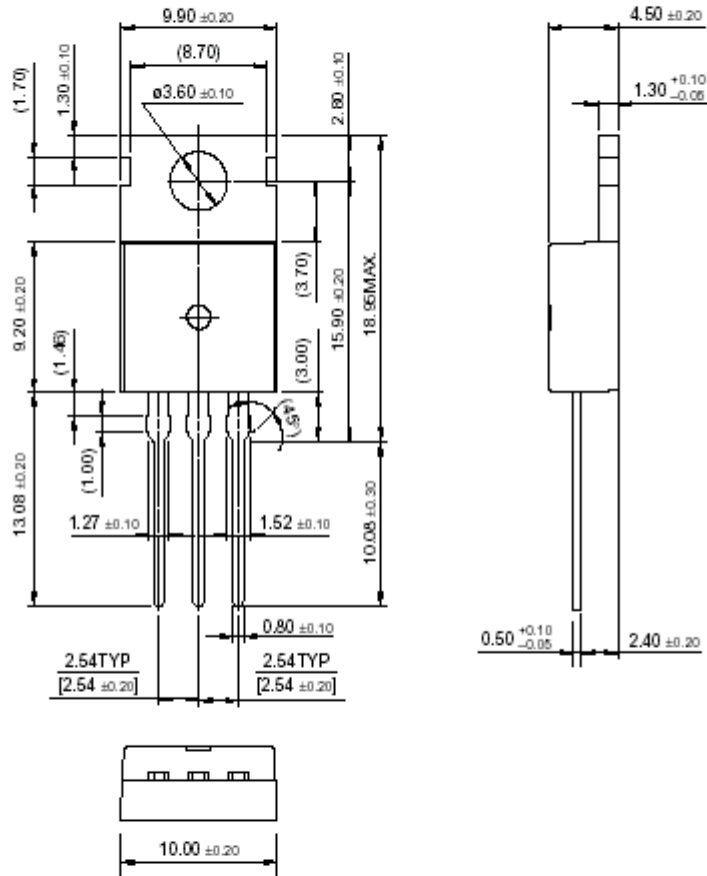


Figure 6. Safe Operating Area



### Package Dimensions

### TO-220



Dimensions in Millimeters